



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,887	03/31/2004	Jason D. McIntosh	CE12394JME	7600

7590 11/04/2005

Larry G. Brown
Motorola, Inc.
Law Department
8000 West Sunrise Boulevard
Fort Lauderdale, FL 33322

EXAMINER

LEE, PING

ART UNIT PAPER NUMBER

2644

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/814,887

Applicant(s)

MCINTOSH ET AL.

Examiner

Ping Lee

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 10-16 is/are rejected.
- 7) ☒ Claim(s) 2 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 8, 10, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Williamson, III (US005369711A).

Regarding claim 1, Williamson, III (hereafter as Williamson) discloses a method for ensuring audio safety in an audio device, comprising the steps of:

outputting an acoustic output signal (13) with a processor (within the telephone switch network);

monitoring the acoustic output signal (by 16);

feeding the monitored acoustic output signal to an analog safety circuit (12); and

adjusting from a first level to a second level the acoustic output signal with the analog safety circuit when the first level of the acoustic output signal reaches a predetermined safety threshold (col. 4, lines 22), wherein the monitoring, feeding and adjusting steps enable the audio device to have an output capacity that is capable of driving the acoustic output signal to a sound pressure level above the predetermined safety threshold, wherein the analog safety circuit (12) serves as a supplement to the ability of the processor (the processor has a dynamic range; see col. 3, lines 25-30; this

range would limit the highest level to be output) to prevent the acoustic output signal from reaching the predetermined safety threshold.

Regarding claim 8, Williamson further shows the sensor (22, 26), a first feedback loop (from 16 to 17).

Regarding claims 3 and 10, Williamson shows the attenuating step (col. 5, lines 50-51).

Regarding claims 15 and 16, Williamson shows the actively-equalized earpiece circuit (col. 3, line 63).

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 3-6, 8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn in view of Williamson.

Regarding claim 1, Lynn discloses a method for ensuring audio safety in an audio device (col. 1, lines 9-12), comprising the steps of: outputting an acoustic output signal with a processor (although not clearly shown, the processor is inherently included in the communication equipment), monitoring the acoustic output signal (by 24 and 26), feeding the monitored acoustic output signal to an analog safety circuit (30, 14), and adjusting from a first level (e.g. the level at time A) to a second level (e.g. the level between A and B) the acoustic output signal with the analog safety circuit (30,14) when the first level (level at time A) of the acoustic output signal reaches a predetermined

safety threshold ("HIGH THRESHOLD"), wherein the monitoring, feeding and adjusting steps enable the audio device to have an output capacity that is capable of driving the acoustic output signal to a sound pressure level above (the signal at the input of the pre-amp can be above the safety threshold) the predetermined safety threshold.

Lynn fails to explicitly show that the analog safety circuit serves as a supplement to the ability of the processor to prevent the acoustic output signal from reaching the predetermined safety threshold. Lynn teaches that the analog safety circuit is used to prevent signal from a telephone reaching over the threshold. It was well known in the art that the telephone switching network, which includes a processor, inherently includes a dynamic range to limit the highest possible signal to be output to the receiver. Williamson teaches such an example (col. 3, lines 25-30). Thus, it would have been obvious to one of ordinary skill in the art to implement the analog safety circuit in Lynn as a supplement to the ability of the processor in order to protect the user's hearing.

Regarding claim 3, Lynn shows the step of the adjusting the acoustic output signal with the analog safety circuit (30, 14) step comprises attenuating the acoustic output signal with the analog safety circuit (30, 14) such that the second level is lower than the first level (as shown in Fig. 3, the second level between period A and B is lower than the first level at time A).

Regarding claim 4, Lynn shows the step of returning the acoustic output signal to a safety level (e.g. the level between B and C) that is below the predetermined safety threshold but higher than the second level once the acoustic output signal is adjusted to the second level.

Regarding claim 5, Lynn shows the step of holding the acoustic output signal at least substantially at the second level for a predetermined amount of time (as shown in Fig. 3, the level is constant for an amount of time between A and B) once the acoustic output signal is adjusted to the second level.

Claims 8 and 10-12 specify a system which corresponds to the method a specified in claims 1 and 3-5 respectively.

The claimed sensor reads on 24 or 26, the claimed first feedback loop reads on 28.

Regarding claims 6 and 13, Lynn shows wherein when the acoustic output signal is adjusted to the second level (at B), the processor is further programmed to further adjust the acoustic output signal to cause the acoustic output signal to move to a third level (any level between B and C), wherein the analog safety circuit adjusts the acoustic output signal to cause the acoustic output signal to move to at least one of the second level (at B) and an intermediate level (the level between B and C) and wherein the processor is further programmed to ramp (between B and C) the acoustic output signal to cause the acoustic output signal to move to a safety level (at C) that is above the second level (at B) and the intermediate level (between B and C) but below the predetermined threshold ("HIGH THRESHOLD").

5. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynn in view of Williamson as applied to claims 1, 3-5, 8 and 10-12 above, and further in view of Terai et al (US 6,041,126).

Regarding claim 7 and 14, Lynn fails to show a microphone. It was well known in the art that there were many ways to measure the loudspeaker output. Lynn teaches how to estimate the acoustic output reproduced by the loudspeaker using a peak detector to measure the signal at the input of the loudspeaker. Terai teaches another way in which the output of the loudspeaker is directly measured by a microphone. Lynn's device is intended to protect the user from exposing to high level sound for a long duration (col. 1, lines 43-68). The sensor as taught in Lynn would provide a *rough estimate* on what the user might hear. A microphone as taught in Terai, on the other hand, *directly measure* what the user actually hears from the loudspeaker. Thus, it would have been obvious to one of ordinary skill in the art to further modify Lynn and Williamson in view of Terai by using a microphone to directly detect the loudspeaker output in order to more accurately estimate the amount of high-level sound the user is being exposed to.

Allowable Subject Matter

6. Claims 2 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Monday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ping Lee
Primary Examiner
Art Unit 2644

pwl